Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of claims:

1-36 (Canceled)

37 (Currently amended). A human antibody having specificity for ~~the activated~~ a C5 alpha chain of a C5 component of the complement system ~~characterised~~ characterized in that it ~~recognises~~ recognizes ~~a polypeptide having at least 80% homology with the peptide comprising the~~ a region corresponding to sequence 731-740 of the C5 component of human complement or a region having at least 80% homology thereto, ~~said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and~~ wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b.

38. (Canceled).

39. (Currently amended) The antibody according to claim 37 ~~characterised~~ characterized in that it is recombinantly produced.

40. (Currently amended) The antibody according to claim 39, ~~characterised~~ characterized in that it is in the form of single chain (scFv) comprising one variable region of the light chain covalently joined to one variable region of the heavy chain.

41. (Currently amended) The antibody according to claim 40, ~~characterised~~ characterized by the fact that the light chain is a lambda chain or a kappa chain, and the variable region of the heavy chain is the VH3 region.

42. (Currently amended) The antibody according to claim 41, ~~characterised~~ characterized in that it comprises at least one of the amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6.

43. (Previously presented) The antibody according to claim 42 having amino acid sequence SEQ ID NO:6.

44. (Currently amended) The antibody according to claim 42 ~~characterised~~ characterized in that it comprises both the amino acid sequences identified as SEQ ID NO:2 and SEQ ID NO:4, or their allelic variants or their conservative mutations.

45. (Currently amended) The antibody according to claim 42, ~~characterised~~ characterized by the fact of comprising a polypeptide having at least 95% homology with at least one of the amino acid sequences corresponding to sequence SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

46. (Currently amended) The antibody according to claim 42 ~~characterised~~ characterized in that it comprises at least one of the sequences selected from the group consisting of SEQ ID NO:2, 4, and 6 in combination with a sequence derived from an immunoglobulin heavy chain constant region.

47. (Canceled)

48. (Currently amended) The antibody according to claim ~~47~~ 46 ~~characterised~~ characterized in that it is dimeric.

49. (Currently amended) ~~The~~ A chimeric protein ~~characterised~~ characterized in that it comprises at least one of the sequences corresponding to SEQ ID NO: 2, 4, 6, 8, ~~10,~~ or 12, or protein sequences having at least 95% homology with said sequences.

50. (Withdrawn) Isolated nucleotide sequence encoding for the antibody according to claim 37.

51. (Withdrawn) Nucleotide sequence according to claim 50 characterised in that it comprises at least one of the sequences selected from: SEQ ID NO:1, 3, and 5 or each one of SEQ ID NO:7, 8, and 9.

52. (Withdrawn) Vector comprising a nucleotide sequence according to claim 51.

53. (Withdrawn) Vector according to claim 52 characterised by the fact of being expression vectors in bacteria, yeasts, or higher eukaryotic cells.

54. (Withdrawn) Isolated cell characterised by being transformed with the nucleotide sequence according to claim 51 or by the vector according to claim 52.

55. (Withdrawn) Non-human transgenic animal, characterised by the fact of expressing nucleotide sequences according to claim 51.

56. (Previously presented) A pharmaceutical composition comprising as the active principle the human antibody of claim 37.

57. (Withdrawn) A pharmaceutical composition comprising as the active principle any one of the nucleotide sequences selected from the group consisting of: a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of SEQ ID NO:1, 3,

and 5 or each one of SEQ ID NO:7, 9, and 11; and a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequences selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6, in combination with suitable excipients and/or diluents.

58. (Previously presented) The composition according to claim 56 for myocardium reperfusion.

59. (Withdrawn) The composition according to claim 57 for treating myocardium damage from reperfusion after ischaemia.

60. (Withdrawn) A therapeutic method for the prevention or the treatment of diseases involving hyperactivation of the complement system to a patient in need thereof comprising administering to said subject a therapeutically effective amount of the antibody of claim 37 or the composition of claim 55.

61. (Withdrawn) A therapeutic method for the prevention or the treatment of diseases involving hyperactivation of the complement system to a patient in need thereof comprising administering to said subject a therapeutically effective amount of a nucleotide sequence selected from the group consisting of: a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of: SEQ ID NO:1, 3, and 5 or each one of SEQ

ID NO: 7, 9, and 11; and a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

62. (Withdrawn) The therapeutic method according to claim 60 wherein said hyperactivation leads to a chronic or an acute inflammatory disease.

63. (Withdrawn) The therapeutic method according to claim 61 wherein said hyperactivation leads to a chronic or an acute inflammatory disease.

64. (Withdrawn) The therapeutic method according to claim 62 wherein said acute inflammatory disease is Multiple Organ Failure or myocardial infarction.

65. (Withdrawn) The therapeutic method according to claim 63 wherein said acute inflammatory disease is Multiple Organ Failure or myocardial infarction.

66. (Withdrawn) The therapeutic method according to claim 62 wherein said chronic inflammatory disease is selected from the group consisting of: rheumatoid arthritis, glomerulonephritis, multiple sclerosis, demyelinating peripheral neuropathies, and atherosclerosis.

67. (Withdrawn) The therapeutic method according to claim 63 wherein said chronic inflammatory disease is selected from the group consisting of: rheumatoid arthritis, glomerulonephritis, multiple sclerosis, demyelinating peripheral neuropathies, and atherosclerosis.

68. (Withdrawn) A method for setting up an animal model for a disease caused by hyperactivation of the complement system which comprises treating an animal with any one of the antibodies selected from the group consisting of: an antibody against the activated C5 component of the complement system which recognises a polypeptide

having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8, and 9; and an antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

69. (Withdrawn) A method for setting up an animal model for a disease caused by hyper-activation of the complement system which comprises treating an animal with any one of the nucleotide sequences selected from the group consisting of: a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; a nucleotide sequence comprising any one and at least one of the sequence selected from group consisting of: SEQ ID NO:1, 3; or 5 or each one of SEQ ID NO: 7, 9, and 11; and a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

70. (Withdrawn) Process for selecting anti-C5 antibodies endowed with the ability of inhibiting the formation of C5a from C5, comprising a first selection step on

C5 antigen and a second selection step by means of inhibition of a hemolytic assay on SRBC.

71. (Withdrawn) Process for the preparation of a recombinant antibody specific for the activated C5 component of the complement system and recognizing a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b, wherein is used any one of the isolated nucleotide sequences selected from the group consisting of: a nucleotide sequence comprising any one of the sequence selected from group consisting of: SEQ ID NO:1, 3, and 5 and each one of SEQ ID NO:7, 9, and 11; and a nucleotide sequence encoding for an antibody at least 95% homologous to any one of the amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

72. (Withdrawn) Kit comprising any one of the antibodies selected from the group consisting of: an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; an antibody comprising an amino acid sequences selected from the group consisting of: SEQ ID NO:2, 4, and 6, or each one of SEQ ID NO:7, 8, and 9; an

antibody with at least 95% homology with at least one of the amino acid sequences corresponding to SEQ ID NO:2, SEQ ID NO:4, or SEQ ID NO:6.

73. (Withdrawn) Kit comprising any one of the nucleotide sequences selected from the group consisting of: a nucleotide sequence encoding an antibody against the activated C5 component of the complement system which recognises a polypeptide having at least 80% homology with the peptide comprising the region corresponding to sequence 731-740 of the C5 component of human complement, said peptide having the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) and wherein said antibody inhibits the conversion of the C5 alpha chain to C5a and C5b; a nucleotide sequence comprising any one and at least one of the sequences selected from group consisting of SEQ ID NO:1, 3, and 5 and each one of SEQ ID NO:7, 9, and 11; and a nucleotide sequence encoding an antibody at least 95% homologous to any one of the amino acid sequences selected from the group consisting of SEQ ID NO:2, SEQ ID NO:4, and SEQ ID NO:6.

74. (Withdrawn) A process for the selection of inhibitors of the conversion of the C5 component of activated complement to its biologically active fragments, characterised by the use of an antibody according to claim 37.

75. (Withdrawn) A peptide with the amino acid sequence: KDMQLGRLHMKTLLPVSK (SEQ ID NO:15).

76. (Withdrawn) A process for the selection of inhibitors of the conversion of the C5 component of activated complement to its biologically active fragments, wherein the peptide according to claim 75 is used.

77. (Currently amended) The antibody according to claim 41, ~~characterised~~ characterized by the lambda chain being Vλ3/V2-14.

78. (Currently amended) The antibody according to claim 41, characterized by the kappa chain being Vκ4/DPK24.

79. (Previously presented) The antibody according to claim 41, characterized by the VH3 region being VH3/V-48.

80. (New) A human antibody having specificity for a C5 alpha chain of a C5 component of the complement system characterized in that it recognizes an epitope formed by the sequence KDMQLGR↓LHMKTLLPVSK (SEQ ID NO:15) of the C5 component of human complement or a region have at least 80% homology thereto, wherein the antibody inhibits the conversion of the C5 alpha chain to C5a and C5b.

81. (New) A human antibody having specificity for a C5 alpha chain of a C5 component of the complement system characterized in that it binds to an epitope comprising 6-10 amino acids composed of 1-5 amino acids upstream and 1-5 amino acids downstream of the proteolytic cleavage site of the C5 component of human complement, wherein the antibody inhibits the conversion of the C5 alpha chain to C5a and C5b.

82. (New) The chimeric protein of claim 49, further comprising sequence derived from an immunoglobulin heavy chain constant region.

83. (New) The chimeric protein according to claim 82, wherein said immunoglobulin heavy chain constant region is selected from the group consisting of: human IgA heavy chain, human IgG heavy chain, murine heavy gamma chain, and rattus norvegicus heavy chain.

84. (New) The chimeric protein of claim 49, further comprising sequence corresponding to SEQ ID NO: 10, wherein said protein inhibits the conversion of the C5 alpha chain to C5a and C5b.

85. (New) The human antibody of claim 37 or the chimera of claims 49 or 84 further comprising a peptide tag positioned at the C or N-terminus of said antibody or chimera, wherein said tag does not alter binding specificities of said antibody or chimera.

86. (New) The antibody or the chimera of claim 85, wherein said tag facilitates affinity purification.

87. (New) The human antibody or the chimera of claim 86, wherein said tag is a poly-histidine tag.